CLAIMS

What is claimed is:

1. A method for simulating a multi-user slotted communication system, comprising:

(a) selecting a new user requiring at least one time slot;

(b) computing, for said at least one time slot, a new interference level as a result of selecting said new user;

(c) invoking a first algorithm to determine whether said new user should be admitted into the system based upon said new interference level and, if said new user should not be admitted, recording a blocking event and proceeding to step (f); otherwise proceeding to step (d)

(d) allocating applicable slot(s) to said user based upon said interference levels;

(e) performing a power balancing of all users in the system; and

(f) determining whether there are additional new users to add to system and, if so, returning to step (a).

2. The method of claim 1, wherein step (e) further comprises:

(e1) invoking a second algorithm using the interference levels of all users in the system; and

(e2) determining whether the slot allocation of any user should be modified and, if so, computing the transmission power of users affected by said modified slot allocation.

3. The method of claim 1, wherein step (e) further comprises:

(e1) computing the interference level of each user;

(e2) determining whether the interference level of each user exceeds a first threshold and if so, recording a drop user event;

4. The method of claim 3, wherein step (e) further comprises:

(e3) updating the transmission power of each user.

5. The method of claim 4, wherein step (e) further comprises:

(e4) determining whether the transmission power of a user exceeds a maximum threshold and, if so, recording a drop user event; and

6. The method of claim 5, wherein each user has a quality requirement and step (e) further comprises:

(e5) determining whether users meets their quality requirements.

7. The method of claim 6, wherein step (e) further comprises:

(e6) determining whether the total downlink transmission power in a time slot exceeds the allowed maximum power and, if so, dropping the user in the time slot that has the largest transmission power and recording a drop user event.

8. The method of claim 7, wherein step (e6) further includes determining whether a third algorithm should be implemented.

9. The method of claim 8, wherein said third algorithm is an Escape algorithm.